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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/522,958	03/10/2000	Katsuhiko Asai	15162/01590	4595

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EXAMINER

CHOW, DOON Y

ART UNIT	PAPER NUMBER
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2675

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DATE MAILED: 07/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/522,958

Applicant(s)

ASAI ET AL.

Examiner

Dennis-Doon Chow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 5-6, 8-18, 20, 23-24, 26, 28-32, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Iwamoto (4802739) and Mio (5463408).

Powell discloses a liquid crystal display device comprising: a liquid crystal display which uses reflective type liquid crystal with a memory effect (page 99, second paragraph), wherein the liquid crystal display exhibits a cholesteric phase. Powell also discloses turning power off and displaying images while the power is off (see title). The liquid crystal display inherently comprises a power supply circuit, an input means, a driving circuit, a controller, a controller and central processing unit for generating and outputting image information.

Powell does not explicitly disclose the use of a booster circuit.

Iwamoto, in the same display field discloses a power supply comprising a booster circuit for boosting a voltage level to a desired level.

It would have been obvious to one of ordinary skill in the art to use Iwamoto's booster circuit in Powell's power supply for the same reason as Iwamoto uses in the his invention, which is boosting a voltage level to a desired level.

Powell does not disclose using a specific method for turning the power off in the display device.

Mio, in the same display field, discloses turning power off in a liquid crystal display device by inactivating a power supply circuit using a controller unit, wherein internal circuits are also inactivated when the power supply circuit is inactivated. The display device comprises a timer for controlling the timing of turning the power off.

It would have been obvious to one of ordinary skill in the art to use Mio's power off method in Powell's invention to turn the power off since Powell does not teach using any specific method for turning the power off.

3. Claims 3-4, 7 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Choi (6115033).

Powell discloses a liquid crystal display device comprising: a liquid crystal display which uses reflective type liquid crystal with a memory effect (page 99, second paragraph), wherein the liquid crystal display exhibits a cholesteric phase. Powell also discloses turning power off and displaying images while the power is off (see title). The liquid crystal display inherently comprises a power supply circuit, an input means, a

driving circuit, a controller, a controller and central processing unit for generating and outputting image information.

Powell does not disclose using a specific method for turning power off in the display device.

Choi discloses a display device comprising a power saving means for saving power consumption. The power saving means includes a controlling means for activating a sleep mode of a central processing unit (a microcomputer, see abstract).

It would have been obvious to one of ordinary skill in the to use Choi's concept in Powell's invention to turn the power off since Powell does not teach using any specific method for turning the power off

4. Claims 19, 27, 35, 37, 38, 40, 41, 43, 44, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Mio (5463408).

Powell discloses a liquid crystal display device comprising: a liquid crystal display which uses reflective type liquid crystal with a memory effect (page 99, second paragraph), wherein the liquid crystal display exhibits a cholesteric phase. Powell also discloses turning power off and displaying images while the power is off (see title). The liquid crystal display inherently comprises a power supply circuit, an input means, a driving circuit, a controller, a controller and central processing unit for generating and outputting image information.

Powell does not disclose using a specific method for turning power off in the display device.

Mio, in the same display field, discloses turning power off in a liquid crystal display device by inactivating a power supply circuit using a controller unit, wherein internal circuits are also inactivated when the power supply circuit is inactivated. The display device comprises a timer for controlling the timing of turning the power off.

It would have been obvious to one of ordinary skill in the art to use Mio's power off method in Powell's invention to turn the power off since Powell does not teach using any specific method for turning the power off.

5. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Mio (5463408) and Fitch (5912653).

Powell discloses a liquid crystal display device comprising: a liquid crystal display which uses reflective type liquid crystal with a memory effect (page 99, second paragraph), wherein the liquid crystal display exhibits a cholesteric phase. Powell also discloses turning power off and displaying images while the power is off (see title). The liquid crystal display inherently comprises a power supply circuit, an input means, a driving circuit, a controller, a controller and central processing unit for generating and outputting image information.

Powell does not disclose using a specific method for turning power off in the display device.

Mio, in the same display field, discloses turning power off in a liquid crystal display device by inactivating a power supply circuit using a controller unit, wherein internal circuits are also inactivated when the power supply circuit is inactivated. The display device comprises a timer for controlling the timing of turning the power off.

It would have been obvious to one of ordinary skill in the art to use Mio's power off method in Powell's invention to turn the power off since Powell does not teach using any specific method for turning the power off.

Powell does not disclose the use of a flexible substrate. However, using flexible substrates in a LCD device to make the LCD device flexible is well known in the art as shown by Fitch (see abstract). Thus, it would have been obvious to one of ordinary skill in the art to use the flexible substrates in Powell's liquid crystal display device to make the display device flexible. By doing so, the display device can be protected from damaging by sudden impact.

6. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in view of Iwamoto (4802739) and Mio (5463408) as applied to claims 1-2, 5-6, 8-18, 20, 23-24, 26, 28-32, and 34 above, and further in view of Fitch.

The above disclosures of Powell, Iwamoto, Mio and Fitch applied here.

7. Claims 36, 39, 42, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell "Cholesteric LCDs show images after power is turned off" in

view of Mio (5463408) as applied to claim 19, 27, 35, 37, 38, 40, 41, 43, 44, and 46 above, and further in view of Iwamoto.

The above disclosures of Powell, Mio and Iwamoto applied here.

Response to Arguments

8. Applicant's arguments filed 4/21/03 have been fully considered but they are not persuasive.

Applicant argues each cited references (Powell, Iwamoto and Mio) individually, and then concludes that the combinations of the cited references do not teach the limitations as claimed. The examiner disagrees with applicant's arguments because applicant cannot show non-obviousness by attacking references individually where as here the rejections are based on combination of references. In re Keller, 208 USPQ 871 (CCPA 1981).

The primary reference, Powell, teaches displaying an image on a Cholesteric LCD device after power is turned off (see the title of the Powell reference). With this teaching, it is clear that Powell suggests removing the power from the display device after the completion of writing the image onto the display device. Powell differs from the claims in that Powell does not explicitly teach removing the power by inactivating a part of a power supply circuit which comprises one of a booster circuit and DC/DC converter. Iwamoto teach a power supply circuit comprises booster. Mio teaches stop supplying power to an LCD device by inactivating a part of a power supply circuit. With these teachings of the references, it is clear the combination of Powell, Iwamoto and Mio

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teaches the limitations as claimed, especially the limitation of inactivating at least part of the power supply circuit after completion of the image writing.

Applicant's argument with regarding to both Iwamoto and Mio not teach any processes after the completion of the image writing is irrelevant because the teachings of both Iwamoto Mio are not used for this limitation, instead the teachings Powell are used for limitation (see the above paragraph).

Applicant argues that it would not have been obvious to one of ordinary skill in the art to combine Powell and Choi. The examiner disagrees with this argument because of the reasons presented in the above rejections and arguments.

For the above reasons, the rejections stand.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


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10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis-Doon Chow whose telephone number is 703-305-4398. The examiner can normally be reached on 8:30-6:00, Alternate Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras can be reached on 703-305-9720. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

D. Chow
June 27, 2003


DENNIS-DOON CHOW
PRIMARY EXAMINER